Community Air Monitoring Workshop: Air Quality Priority: Fugitive Road Dust and Off-Roading

Purpose of This Document

- Summarize the Eastern Coachella Valley (ECV) Community Steering Committee (CSC) air quality concerns;
- Provide information on parts of the Community Air Monitoring Plan (CAMP) describing air monitoring strategies aimed at addressing air quality concerns from fugitive road dust and off-roading;
- Gather feedback from the CSC

Community Concerns (CC)

The ECV CSC has expressed the following concerns regarding issues about fugitive road dust and off-roading that may negatively impact air quality and the life of local community members:

CC-1 Road dust from unpaved roadways is a major concern. Roadway paving projects implemented in the past have improved particulate matter (PM10) levels in the community.

CC-2 CSC members are concerned about health effects experienced from high PM10 levels in ECV.

CC-3 CSC members expressed concerns about dust emissions from off-road vehicles.

CC-4 CSC members expressed concern that there is not enough PM 10 air monitoring in ECV.

Proposed Air Monitoring Strategies to Address Fugitive Road Dust and Off-Roading

Below are potential strategies and actions to address CSC concerns about emissions from fugitive road dust and off-roading.

Goals	Proposed Air Monitoring Strategies	Current Air Monitoring Activities	Seeking CSC Input

Supplement monitoring networks	• Identify opportunities to conduct additional PM10 monitoring in the ECV to:
	  ○ Provide real-time PM10 and wind data and inform community members of PM10 levels in the ECV, and if they exceed Federal and/or State standards
	  ○ Track the progress of emission reduction strategies
	  ○ Use these additional efforts to guide the long-term South Coast AQMD's PM10 monitoring network strategies
	
	Community Concern(s) addressed: CC-1, CC-2, CC-3, CC-4
		• South Coast AQMD currently operates two PM10 monitors at the Indio and Mecca Air Monitoring Stations, both with wind speed and direction data.
		• Data are available in near real-time at:
		  ○ AB 617 Data Display Tool: http://www.aqmd.gov/ab617-data-display-tool/ecv
		• Four additional PM10 monitors in this community are operated by outside agencies.
			• Input on monitor locations and locations of high road dust emissions (e.g., locations with high off-road vehicle use)
			• Input on timeline for deploying additional PM10 monitors

	• Seek new opportunities and work with the CSC to expand air quality sensor deployments to:
	  ○ Provide real-time PM10 data
	  ○ Supplement the PM10 monitoring network in the ECV and cover a larger area in the
		• South Coast AQMD will begin sensor deployment as part of the implementation of the CAMP for this community.
		• Calibration/correction techniques for air quality sensors are being investigated.
			• Input on sensor locations
			• Input on size of sensor network (i.e., number of sensors)
			• Input on CSC and/or community participation and hosting sensors
			• Input on timeline for sensor deployment

	community, prioritizing areas where the public spends a significant amount of time (e.g. schools and residential areas) and areas close to sources of fugitive dust ○ Co-locate air quality sensors at monitoring stations with reference PM10 monitors and develop a systematic data calibration and correction protocol to enhance air quality sensor PM10 data quality ***Community Concern(s) addressed: CC-1, CC-2, CC-3, CC-4***		• Input on data display

Assembly Bill 617 (AB 617) Eastern Coachella Valley Community

South Coast Air Quality Management District

Input Gathering Worksheet for Air Monitoring for Fugitive Road Dust and Off-Roading

Please provide any information and suggestions on potential air monitoring locations (e.g. locations with high off-roading traffic, potential sources of diesel fugitive road dust).

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Please provide information and suggestions on potential locations for sensor deployment. Feel free to include a list of community members or organizations who may be willing to host a sensor at their private residence (NOTE: each sensor will measure PM, NO2 and O3).

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Please provide any input you may have regarding other monitoring purposes and objectives for fugitive road dust and off-roading.

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Note: Information provided by you on this worksheet (including contact or other personal information) is a public record and may be released in response to a California Public Records Act request.

CAMP Subchapter on Fugitive Road Dust and Off-Roading

The CSC identified emissions from fugitive road dust and off-roading as an air quality priority in ECV. Fugitive road dust in this community is generated when vehicles travelling on paved and unpaved roads kick up loose solid materials deposited on the surface and make them airborne. The CSC has expressed concerns about dust emitted from unpaved roadways when there are windy conditions or when off-road vehicles drive on these roads. Community residents are also concerned about the potential health effects associated with exposure to high PM10 levels resulting from fugitive road dust and off-roading emissions.

Currently, six air monitoring stations in the ECV community measure PM10 mass concentration. The Indio and Mecca air monitoring stations are operated by the South Coast AQMD, while the rest of the stations are operated by other agencies. The PM10 monitor at the Indio monitoring station is the regulatory PM10 air monitor for the region that help determine the Federal and State PM10 standard attainment.

The monitoring strategy for fugitive road dust and off-roading includes conducting additional PM10 monitoring in ECV specifically to evaluate areas of potentially high fugitive dust, which will provide near real-time PM10 and wind data to inform community members about PM10 levels and if they exceed Federal and/or State standards. These measurements will help track the concentration trends of PM10 levels over time to help determine the effectiveness of emission reduction strategies.

South Coast AQMD will seek new opportunities and work with the CSC to create an air quality sensor network to augment the fixed monitoring network for PM10 measurements to cover a larger area in the community, prioritizing areas where the public spends a significant amount of time (e.g., schools and residential areas) and areas close to sources of fugitive dust. Data from these sensors will provide near real-time data and improve our understanding of the spatial and temporal variability in PM10 levels across ECV and assist in evaluating long term measurement strategies in the area. This information will help better distinguish where the PM10 emissions are coming from (e.g., dust emissions from the Salton Sea or wind-blown dust from surrounding deserts). Air quality sensors will also provide more opportunities for community engagement in different aspects of the air monitoring process. All sensors will be co-located at one of the air monitoring stations with reference PM10 monitors to check their performance prior to deployment. It should be noted that the sensors for PM10 measurements usually show a good performance at the lower concentration levels while their uncertainty increases significantly during regional dust events with high PM10 levels. A systematic data calibration and correction protocol has been developed and will be implemented to improve data quality for the entire sensor network. During dust events, which have regional impacts, the reference monitors can help determine the community impact.